

CLAIMS

What is claimed is:

1. A wellbore apparatus comprising:
  - a) an outer permeable material;
  - 5 b) a first basepipe section wherein at least a portion of the first basepipe section is perforated, the first basepipe section is inside the outer permeable material and at least part of the first basepipe section is adjacent to a production interval of a wellbore;
  - c) a second basepipe section wherein at least a portion of the second basepipe section is slotted, the second basepipe section is inside the outer permeable material and above the first basepipe section, wherein at least a portion of the second basepipe section is adjacent to a non production section of the wellbore;
  - d) the first basepipe section and second basepipe section providing a three-dimensional surface defining a fluid flow path through the wellbore.
- 15 2. The wellbore apparatus of claim 1 wherein the outer permeable material is a well-screen.
3. The wellbore apparatus of claim 1 wherein slots of the second basepipe section are at least large enough to permit passage of residual mud and formation fines and small enough to retain gravel.
- 20 4. The wellbore apparatus of claim 1 wherein the number of the slots is large enough for the friction of fluid flow through the slots to be comparable to or not much greater than the friction across the outer permeable material.
5. The wellbore apparatus of claim 1 further comprising alternate path technology shunts coupled to the outer permeable material.

6. The wellbore apparatus of claim 1 wherein the wellbore is an open-hole wellbore and at least part of the second basepipe section is above a casing shoe.
7. The wellbore apparatus of claim 1 wherein the wellbore is a cased-hole wellbore with a perforated interval and at least part of the second basepipe section is  
5 above a casing shoe above the perforated interval.
8. A wellbore apparatus, comprising:
  - a) an outer permeable member;
  - b) a perforated basepipe section inside the outer permeable member wherein at least part of the perforated basepipe section is adjacent to a production  
10 interval of a wellbore;
  - c) a slotted basepipe section inside the outer permeable member and above the perforated basepipe section, wherein at least a portion of the slotted basepipe section is adjacent to a non perforated section of the wellbore; and
  - d) the perforated and slotted basepipe sections providing a three-dimensional surface defining a fluid flow path through the well.  
15
9. The wellbore apparatus of claim 8 wherein the outer permeable member comprises a well-screen.
10. The wellbore apparatus of claim 8 wherein slots of the slotted basepipe section are at least large enough to permit passage of residual mud and formation fines and  
20 small enough to retain gravel.
11. The wellbore apparatus of claim 8 wherein the number of the slots is large enough for the friction of fluid flow through the slots to be comparable to or not much greater than the friction across the outer permeable member.
12. The wellbore apparatus of claim 8 further comprising alternate path  
25 technology shunts in the outer permeable member.

13. The wellbore apparatus of claim 8 wherein the wellbore is an open-hole wellbore and at least part of the second basepipe section is above the casing shoe above the production interval.

14. The wellbore apparatus of claim 8 wherein the production interval is a cased-hole wellbore with a perforated interval and at least part of the second basepipe section is above a casing shoe above the perforated interval.

15. A wellbore comprising:

a) an outer permeable member in the wellbore;

b) a first basepipe section with at least a portion of the first basepipe section being perforated, the first basepipe section is inside the outer permeable member and at least part of the first basepipe section is adjacent to a production interval;

c) a second basepipe section with at least a portion of the second basepipe section being slotted, the second basepipe section inside the outer permeable member and above the second basepipe section, wherein at least a portion of the second basepipe section is adjacent to a non production section of the wellbore.

16. The wellbore of claim 15 wherein the outer permeable member comprises a well-screen.

17. The wellbore of claim 15 wherein slots of the second basepipe section are at least large enough to permit passage of residual mud and formation fines and small enough to retain gravel.

18. The wellbore of claim 15 wherein the number of the slots is large enough for the friction of fluid flow through the slots to be comparable to or not much greater than the friction across the outer permeable member.

25 19. The wellbore of claim 15 further comprising alternate path technology shunts associated with the outer permeable member.

20. The wellbore of claim 15 wherein the wellbore is an open-hole wellbore and at least part of the second basepipe section is above a casing shoe.
21. The wellbore of claim 15 wherein the wellbore is a cased-hole wellbore with a perforated interval and at least part of the second basepipe section is above a casing  
5 shoe above the perforated interval.
22. A wellbore comprising:
  - a) a wellbore wherein the wellbore comprises at least one perforated section within a hydrocarbon production interval and at least one non perforated section above the at least one perforated section;
  - 10 b) an outer permeable member in the wellbore;
  - c) a perforated basepipe section inside the outer permeable member, wherein at least part of the perforated basepipe section is adjacent to the at least one perforated section;
  - 15 d) a slotted basepipe section inside the outer permeable member and above the perforated basepipe section, wherein at least a portion of the slotted basepipe section is adjacent to the at least one non perforated section; and
  - e) the perforated and slotted basepipe sections providing a three-dimensional surface defining a fluid flow path through the wellbore.
23. The wellbore of claim 22 wherein the outer permeable member is well-screen.
- 20 24. The wellbore of claim 22 wherein slots of the slotted basepipe section are at least large enough to permit passage of residual mud and formation fines and small enough to retain gravel.
25. The wellbore of claim 22 wherein the number of slots in the slotted basepipe section is large enough for the friction of fluid flow through the slots to be at least equal to the friction across the outer permeable member.

26. The wellbore of claim 22 further comprising alternate path technology shunts in the outer permeable member.

27. The wellbore of claim 22 wherein the wellbore is an open-hole wellbore and at least part of the second basepipe section is above a casing shoe.

5 28. The wellbore of claim 22 wherein the wellbore is a cased-hole wellbore with a perforated interval and at least part of the second basepipe section is above a casing shoe above the perforated interval.

29. A method of completing a wellbore, comprising;

10 a) providing a wellbore apparatus comprising an outer permeable media, a first basepipe section with at least a portion of the first basepipe section being perforated and disposed inside the outer permeable media, and a second basepipe section with at least a portion of the second basepipe section being slotted, the second basepipe section disposed inside the outer permeable media and above the first basepipe section; and

15 b) disposing the wellbore apparatus in a wellbore wherein at least part of the first basepipe section is adjacent to a production interval and at least part of second basepipe section is adjacent to a non production section of the wellbore.

30. The method of claim 29 further comprising gravel packing the first basepipe section and at least a portion of the second basepipe section within the wellbore.

20 31. The method of claim 29 further comprising producing hydrocarbons from the wellbore.

32. The method of claim 29 wherein at least part of the first basepipe section is adjacent to the production interval that is cased with perforations and at least a portion of the second basepipe section is adjacent to a non perforated section of the wellbore.

25 33. The method of claim 29 wherein the outer permeable media is a well-screen.

34. The method of claim 29 wherein the second basepipe section has slots that are at least large enough to permit passage of residual mud and formation fines and small enough to retain gravel.

35. The method of claim 29 wherein the number of the slots in the second  
5 basepipe section is large enough for the friction of fluid flow through the slots to be at least equal to the friction across the outer permeable media.

36. The method of claim 29 further comprising alternate path technology shunts in the outer permeable media.

37. The method of claim 29 wherein the wellbore is an open-hole wellbore and at  
10 least part of the second basepipe section is above a casing shoe.

38. The method of claim 29 wherein the wellbore is a cased-hole wellbore with a perforated interval and at least part of the second basepipe section is above a casing shoe above the perforated interval.

39. A wellbore apparatus comprising:

15 a perforated basepipe, wherein at least a portion of the perforated basepipe disposed adjacent to a production interval of a wellbore; and

a slotted basepipe coupled to the perforated basepipe and disposed closer to the surface of the wellbore than the perforated basepipe.

40. The wellbore apparatus of claim 39 wherein at least a portion of the slotted  
20 basepipe is disposed adjacent to a non production interval of the wellbore.

41. The wellbore apparatus of claim 39 wherein a first outer permeable media coupled to the perforated basepipe and a second outer permeable media coupled to the slotted basepipe.

42. The wellbore apparatus of claim 41 wherein the first outer permeable media  
25 and the second outer permeable media comprise well screens.

43. The wellbore apparatus of claim 41 wherein the number of the slots in the slotted basepipe are configured to maintain a comparable friction of fluid flow for fluid through the slots and across the outer permeable media.

44. The wellbore apparatus of claim 41 further comprising alternate path  
5 technology shunts associated with the outer permeable media.

45. The wellbore apparatus of claim 39 wherein slots of the slotted basepipe are configured to permit passage of residual mud and formation fines and small enough to retain gravel.

46. The wellbore apparatus of claim 39 wherein the perforated basepipe is utilized  
10 to produce hydrocarbons from the wellbore.

47. A method comprising;

disposing at least a portion of a perforated basepipe adjacent to a production interval of a wellbore; and

15 disposing a slotted basepipe in the wellbore, wherein the slotted basepipe is coupled to the perforated basepipe and positioned closer to the surface of the wellbore than the perforated basepipe.

48. The method of claim 47 wherein at least a portion of the slotted basepipe is disposed adjacent to a non production interval of the wellbore.

49. The method of claim 47 comprising coupling a first outer permeable media to  
20 the perforated basepipe and a second outer permeable media to the slotted basepipe.

50. The method of claim 47 comprising gravel packing the perforated basepipe and at least a portion of the slotted basepipe within the wellbore.

51. The method of claim 47 comprising producing hydrocarbons from the wellbore via the perforated basepipe and the slotted basepipe.

52. The method of claim 47 further comprising alternate path technology shunts coupled to the perforated basepipe and the slotted basepipe.